



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Petition for Exemption from the

Federal Motor Vehicle Theft Prevention Standard;

Fiat Chrysler Automobiles US LLC

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Grant of petition for exemption.

SUMMARY: This document grants in full the Fiat Chrysler Automobiles US LLC's, (FCA) petition for exemption of the Jeep Gladiator vehicle line in accordance with Exemption from Vehicle Theft Prevention Standard. This petition is granted because the agency has determined that the antitheft device to be placed on the line as standard equipment is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Federal Motor Vehicle Theft Prevention Standard. (Theft Prevention Standard).

DATES: The exemption granted by this notice is effective beginning with 2020 model year (MY).

FOR FURTHER INFORMATION CONTACT: Ms. Carlita Ballard, International Policy, Fuel Economy and Consumer Programs, NHTSA, West Building, W43-439, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590. Ms. Ballard's phone number is (202) 366-5222. Her fax number is (202) 493-2990.

SUPPLEMENTARY INFORMATION: In a petition dated August 21, 2018, FCA requested

an exemption from the parts-marking requirements of the Theft Prevention Standard for its Jeep Gladiator vehicle line beginning with MY 2020. The petition requested an exemption from parts-marking pursuant to 49 CFR part 543, Exemption from Vehicle Theft Prevention Standard, based on the installation of an antitheft device as standard equipment for the entire vehicle line.

Under 49 CFR part 543.5(a), a manufacturer may petition NHTSA to grant an exemption for one vehicle line per model year. In its petition, FCA provided a detailed description and diagram of the identity, design, and location of the components of the antitheft device for its Jeep Gladiator vehicle line. FCA stated that its MY 2020 Jeep Gladiator vehicle line will be installed with the Sentry Key Immobilizer System (SKIS) antitheft device as standard equipment on the entire vehicle line. The SKIS will provide passive vehicle protection by preventing the engine from operating unless a valid electronically encoded key is inside the cabin of the vehicle and a valid key code is detected in the ignition system of the vehicle. Key components of the antitheft device will include an immobilizer, a Radio Frequency Hub Module (RFHM), Engine Control Module (ECM), Body Controller Module (BCM), a Keyless Ignition Node (KIN), Transponder Key/FOB with Integrated Key (FOBIK) and an Instrument Panel Cluster (IPC) which contains the telltale function only. According to FCA, these components work collectively to perform the immobilizer function. FCA will not provide an audible alert, however, the vehicle will be equipped with a security indicator in the instrument panel cluster that will flash if an invalid transponder key is detected.

FCA's submission is considered a complete petition as required by 49 CFR 543.7 in that it meets the general requirements contained in 543.5 and the specific content requirements of 543.6.

In addressing the specific content requirements of 49 CFR part 543.6, FCA provided information on the reliability and durability of the device. FCA conducted tests based on its own specified standards (i.e., voltage range and temperature range) and stated its belief that the device meets the stringent performance standards prescribed. Specifically, FCA stated that its device must demonstrate a minimum of 95 percent reliability with 90 percent confidence. In addition to the design and validation test criteria, FCA stated that 100% of its systems undergo a series of three functional tests prior to being shipped from the supplier to the vehicle assembly plant for installation in the vehicles.

FCA stated that the SKIS immobilizer feature is activated when the transponder key is removed from the ignition system (whether the doors are open or not) and the ignition system is in the "OFF" position. Specifically, once the SKIS is activated, only a valid transponder key that is recognized by the ignition system will disable it and allow the vehicle to start and continue to run. FCA stated that the functions and features of the SKIS are all integral to the BCM in this vehicle. The RFHM contains a Radio Frequency (RF) transceiver and a microprocessor and it initiates the ignition process by communicating with the BCM. The RFHM and the ECM both use software that includes a rolling code algorithm strategy which helps to reduce the possibility of unauthorized SKIS disarming. The microprocessor-based SKIS hardware and software also uses electronic messages to communicate with other electronic modules in the vehicle over the Controller Area Network (CAN) data bus.

FCA also stated that, the SKIS uses RF communication with an Advanced Encryption System (AES) to obtain confirmation that the transponder key is a valid FOB/K for operating the vehicle. The RFHM receives Low Frequency (LF) and/or RF signals from the Sentry Key

transponder through a tuned RF antenna. If the response identifies the FOBK as valid, communication between the RFHM, the BCM, and the ECM proceeds. FCA also stated that for added security, each RFHM is programmed with a unique secret key code that is stored in memory. FCA stated that once a Sentry Key has been programmed to a particular vehicle, it cannot be used on any other vehicle.

FCA stated that, the RFHM is connected to a Keyless Ignition Node (KIN) with a START/STOP push button as an ignition switch. FCA further stated that when the START/STOP button is pressed, the RFHM transmits a signal to the transponder key through LF antennas to the RFHM. The RFHM then waits for a RF signal response from the transponder in the FOBK. If the response received identifies the FOBK as valid, the communication between the RFHM, the BCM, and the ECM then proceeds. If the ECM receives an invalid key message, or receives no message from the RFHM over the CAN data bus, the engine will be disabled.

To avoid any perceived delay when starting the vehicle with a valid transponder key and to prevent unburned fuel from entering the exhaust, FCA stated that the engine is permitted to run for no more than two seconds if an invalid transponder key is used. Additionally, FCA stated that only six consecutive invalid vehicle start attempts will be permitted and all other attempts will be locked out by preventing the fuel injectors from firing and disabling the starter.

FCA stated that its vehicles are also equipped with a security indicator that acts as a diagnostic indicator. FCA stated that if the RFHM detects an invalid transponder key or if a transponder key related fault occurs, the security indicator will flash. If the RFHM detects a system malfunction or the SKIS becomes ineffective, the security indicator will stay on. The SKIS also performs a self-test each time the ignition system is turned to the RUN position and

will store fault information in the form of a diagnostic trouble code in RFHM memory if a system malfunction is detected.

FCA stated that it expects the Jeep Gladiator vehicle line to mirror the lower theft rate results achieved by the Jeep Wrangler vehicle line when ignition immobilizer systems were installed as standard equipment on the line. FCA stated that it has offered the SKIS immobilizer device as standard equipment on all Jeep Wrangler vehicles since MY 2007. According to FCA, the average theft rate for Jeep Wrangler vehicles, based on NHTSA's theft rate data for the five model years prior to (1995-2000), when a vehicle immobilizer device was not installed as standard equipment was 2.8264 per one thousand vehicles produced. This was significantly lower than the 1990/1991 median theft rate of 3.5826. However, FCA also indicated that the average theft rate for the Jeep Wrangler for the five model years (2007-2014), after installation of the standard immobilizer device was 0.5033, which is significantly lower than the theft rate without the standard immobilizer system. The Jeep Wrangler vehicle line was also granted an exemption from the parts-marking requirements beginning with MY 2009 (72 FR 62728, November 6, 2007). FCA further asserts that NHTSA's theft rate data for the Jeep Wrangler indicates that the inclusion of a standard immobilizer device resulted in an 82 percent net average reduction in vehicle thefts. Theft rate data reported in the Federal Register notices published by the agency show that the theft rate for the Jeep Wrangler vehicle line, using an average of three MYs' data (2012-2014) is also 0.3979, which is significantly lower than the median theft rate established by the agency.

Based on the evidence submitted by FCA, the agency believes that the antitheft device for the Jeep Gladiator vehicle line is likely to be as effective in reducing and deterring motor

vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR 41). The agency concludes that the device will provide four of the five types of performance listed in 49 CFR part 543.6(a)(3): promoting activation; preventing defeat or circumvention of the device by unauthorized persons; preventing operation of the vehicle by unauthorized entrants; and ensuring the reliability and durability of the device.

Pursuant to 49 U.S.C. 33106 and 49 CFR Part 543.7(b), the agency grants a petition for exemption from the parts-marking requirements of part 541, either in whole or in part, if it determines that, based upon substantial evidence, the standard equipment antitheft device is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of part 541. The agency finds that FCA has provided adequate reasons for its belief that the antitheft device for the vehicle line is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR part 541). This conclusion is based on the information FCA provided about its device.

The agency notes that 49 CFR part 541, Appendix A-1, identifies those lines that are exempted from the Theft Prevention Standard for a given model year. 49 CFR part 543.7(f) contains publication requirements incident to the disposition of all part 543 petitions. Advanced listing, including the release of future product nameplates, the beginning model year for which the petition is granted and a general description of the antitheft device is necessary to notify law enforcement agencies of new vehicle lines exempted from the parts marking requirements of the Theft Prevention Standard. FCA stated that an official nameplate for the vehicle has not yet been determined.

If FCA decides not to use the exemption for this vehicle line, it must formally notify the agency. If such a decision is made, the vehicle line must be fully marked as required by 49 CFR parts 541.5 and 541.6 (marking of major component parts and replacement parts).

NHTSA notes that if FCA wishes in the future to modify the device on which this exemption is based, the company may have to submit a petition to modify the exemption. 49 CFR part 543.7(d) states that a part 543 exemption applies only to vehicles that belong to a line exempted under this part and equipped with the anti-theft device on which the line's exemption is based. Further, 49 CFR part 543.9(c)(2) provides for the submission of petitions "to modify an exemption to permit the use of an antitheft device similar to but differing from the one specified in that exemption."

The agency wishes to minimize the administrative burden that 49 CFR part 543.9(c)(2) could place on exempted vehicle manufacturers and itself. The agency did not intend in drafting Part 543 to require the submission of a modification petition for every change to the components or design of an antitheft device. The significance of many such changes could be *de minimis*. Therefore, NHTSA suggests that if the manufacturer contemplates making any changes, the effects of which might be characterized as *de minimis*, it may want to consult the agency before preparing and submitting a petition to modify.

For the foregoing reasons, the agency hereby grants in full FCA's petition for exemption for its Jeep Gladiator vehicle line from the parts-marking requirements of 49 CFR part 541, beginning with its MY 2020 Jeep Gladiator vehicles.

Issued in Washington, D.C., under authority delegated in 49 CFR 1.95 and 501.8.

Raymond R. Posten,
Associate Administrator for Rulemaking.

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